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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,762	06/27/2006	Wen Gao	LPIT-TRAN-11	5783
J.C. PATENTS 4 Venture, Suite 250 Irvine, CA 92618				
EXAMINER TORRENTE, RICHARD T				
ART UNIT 2482		PAPER NUMBER		
MAIL DATE 01/10/2011		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/584,762

**Applicant(s)**

GAO ET AL.

**Examiner**

RICHARD TORRENTE

**Art Unit**

2482

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 November 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (FIC-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 1-3 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent<sup>1</sup> and recent Federal Circuit decisions<sup>2</sup> indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example, the "performing motion estimation", "discriminating whether the motion", etc. method are of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or **without a machine**. The applicant has provided no explicit and deliberate definitions of "performing motion estimation", "discriminating whether the motion", etc. to limit the steps to the electronic form of the "method for obtaining an image".

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<sup>1</sup> Diamond v. Diehr, 450 U.S. 175, 184 (1981); Parker v. Flook, 437 U.S. 584, 588 n.9 (1978); Gottschalk v. Benson, 409 U.S. 63, 70 (1972); Cochrane v. Deener, 94 U.S. 780, 787-88 (1876).

<sup>2</sup> *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.


3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadono et al. (US 7,327,788) in view of Applicant Admitted Prior Art (AAPA).

Regarding claim 1, Kadono discloses a method for obtaining an image reference block (see Mb1 in fig. 1) in a picture in a code mode (see direct mode of fig. 1) of fixed reference frame number (see abstract; e.g. see fig. 1) in image encoding/decoding of digital video, comprising the steps of: (a) performing motion estimation (see fig. 3) for each block of a current B frame (see 1202 in fig. 1) and obtaining a motion vector MV (see MVb in fig. 1) of a corresponding block of a backward reference frame (see 1203 in fig. 1); (b) discriminating whether the motion vector is beyond a maximum forward reference frame (see fig. 4; see column 3, lines 50-60) which is pointed by the frame (see 1202 in fig. 1), if not, proceeding to step (c); else, proceeding to step (d); (c) a forward motion vector (see MVf in fig. 7) and a backward motion vector (see MVb in fig. 7) of a macro block (see 1502 in fig. 7) being able to be calculated by the following formulas (e.g. see eq. 1(a) in column 2. Note that tb-td is equivalent to TRb): assuming

$$MV_F = \frac{tb}{td} \times MV$$

$$MV_B = \frac{tb - td}{td} \times MV$$

here,  $tb$  is a distance in time domain (see TRf in fig. 7) between a current picture and a forward reference picture, and  $td$  is a distance in time domain (see TR1 in fig. 7) between a forward reference picture and a backward reference picture ; (d) a forward motion vector (see MVf in fig. 10) and a backward motion vector (see MVb in fig. 10) of the macro block being able to be calculated by the following formulas (e.g. see eq. 2 in column 9. Note that  $tb - td$  is equivalent to TRb): assuming  $MV_F$  and  $MV_B$  as a forward motion vector and a backward motion vector of a current block,



$$MV_F = \frac{tb}{td} \times MV$$

$$MV_B = \frac{tb - td}{td} \times MV$$

here,  $tb$  is a distance in time domain (see distance from 1700 and 1702 in fig. 10, wherein it is implied that  $tb - td$  is the derivation of "TR1- distance of (1700 and 1702)" in obtaining TRb) between a current picture and a forward reference picture,  $td$  is a distance in time domain (see TR1 in fig. 10) between a forward reference picture and a backward reference picture, and  $tb'$  is a distance in time domain (see TRf in fig. 10) between the current B frame and the forward reference frame which is pointed by the frame; (e) two image blocks pointed by the  $MV_B$  and  $MV_F$  being image reference blocks corresponding to the macro block (see MVf and MVb in fig. 10).

Although Kadono discloses the discriminating whether the motion vector is beyond a maximum forward reference frame (see fig. 4; see column 3, lines 50-60) which is pointed by the frame (see 1202 in fig. 1), it is noted that Kadono does not disclose wherein the forward reference frame pointed by the frame is a B frame.

However, AAPA discloses a motion vector derivation wherein the forward reference frame pointed by the frame is a B frame (see fig. 1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate AAPA teachings of reference B-frame into Kadono reference frame for the benefit of enablement of direct mode calculation for B-frame.

Regarding claim 2, Kadono further discloses wherein said obtaining a motion vector MV of a corresponding block of a backward reference frame in said step (a) includes: selecting a macro block with the same position as a macro block to be encoded in B frame to be a corresponding macro block from a backward reference P frame, and obtaining a motion vector of the macro block in P frame (see fig. 1).

Regarding claim 3, Kadono further discloses wherein said discriminating whether the motion vector of the corresponding block in the backward reference frame is beyond a maximum forward reference frame which is pointed by the B frame in step (b) includes: comparing whether a time domain obtaining the maximum forward reference frame which is possibly pointed by the B frame is larger than or equals to a time domain

of a forward reference frame pointed by the motion vector of the corresponding block in the backward reference frame, if yes, then not beyond the maximum forward reference frame which is pointed by the B frame; else, beyond it (see fig. 4; e.g. see fig. 7 and 10).

### ***Response to Arguments***

4. Applicant's arguments filed 11/23/10 have been fully considered but they are not persuasive. Applicant argued that Kadono does not disclose "a maximum forward reference frame which is pointed by the B frame,". The Examiner respectfully disagrees. Kadono 21 in fig. 4 shows a predetermined (maximum) forward reference frame with time (see column 8, lines 4-7), wherein AAPA discloses the obviousness of the referenced frame as a B-frame.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the B frame cannot obtain the image reference block when it is out of the scope) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571) 270-3702. The examiner can normally be reached on M-F: 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Young Lee/  
Primary Examiner, Art Unit 2482

/Richard Torrente/  
Examiner, Art Unit 2482